

ACCESSION #: 9603180309

LICENSEE EVENT REPORT (LER)

FACILITY NAME: Maine Yankee Atomic Power Company PAGE: 1 OF 2

DOCKET NUMBER: 05000309

TITLE: Maine Yankee Atomic Power Company

EVENT DATE: 2/13/96 LER #: 96-03-00 REPORT DATE: 3/13/96

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 7 POWER LEVEL: 90

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:

50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:

NAME: Joseph P. Waldman, Senior Shift TELEPHONE: (207) 882-5690

Technical Advisor

COMPONENT FAILURE DESCRIPTION:

CAUSE: X SYSTEM: LD COMPONENT: CPOS MANUFACTURER: M422

REPORTABLE NPRDS: YES

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

On 2/13/96 at 2228, Maine Yankee was operating at 2440 MWt (90.3% power) when the reactor automatically scrammed due a loss of load trip from a high steam generator #3 water level. The high water level was due to a faulty positioner on the steam generator #3 Main Feedwater Regulating Valve(MFRV). The faulty positioner caused the main feedwater regulating valve to go to the full open position which resulted in overfeeding the #3 steam generator and the resultant trip on high water level.

The faulty positioner on #3 MFRV has been replaced. The positioner on #2 MFRV was also replaced as a precautionary measure, since it had been in service since July 1992.

The positioner on #1 MFRV had been replaced in January 1996. The air filter of the positioner on #3 MFRV was inspected and found to be clean.

Planned long term actions are to (1) have the manufacturer perform a failure analysis on the positioner, (2) evaluate equipment history to include MFRV positioners; in a Preventative Maintenance program, (3) evaluate securing the air supply to the MFRV during plant shutdowns, and (4) evaluate new types of control systems which would relocate the instruments off the MFRV actuator.

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INITIAL CONDITIONS:

On 2/13/96, Maine Yankee was in Mode 7, Power Operations, at a steady state 90.3% power condition.

EVENT DESCRIPTION:

On 2/13/96 at 2139, the control room received a #3 steam generator [SG]

Warning High Water Level alarm on the plant computer due to erratic

operation of the #3 Main Feedwater Regulating Valve (MFRV)[LCV]. A

Control Room Operator (CRO) took remote manual control of the #3 MFRV and

restored water level to normal. The valve was checked locally and no

apparent failures were evident. The #3 MFRV controller was then returned

to automatic and steam generator water level control appeared normal.

The operating crew discussed the event. The decision was made that the

water level would be monitored closely and manual control of the MFRV

would be taken if the erratic operation returned. The MFRV continued to

operate normally.

At 2228, Maine Yankee automatically scrammed due to a Reactor Protection

System (RPS)[JC] actuation. The RPS trip was a loss of load turbine trip

from a high water level signal in steam generator #3. The high water level was due to a failed valve positioner on the MFRV. The failed positioner caused the #3 MFRV to go to the full open position resulting in overfeeding the steam generator. The CR took manual control of the #3 MFRV and attempted to close the valve. The valve did not respond and level continued to increase. The CRO began throttling the inlet isolation Motor Operated Valve (MOV)[ISV], but the high water level trip setpoint was reached before the MOV could begin to control flow. The reactor tripped automatically before a manual trip could be initiated. The plant response to the reactor trip was normal except for a breaker[BKR] in the electrical switchyard[FK] which was slow to open. The breaker did open but not before its back-up breaker opened.

SAFETY SIGNIFICANCE:

The safety significance was minimal. The feed train trip system[JB], which closes the MFRVs on a low steam generator pressure and Safety Injection Actuation Signal (SIAS) [JE], was operable and unaffected by the failure of the MFRV positioner. All safety related systems responded correctly upon the trip.

CAUSAL FACTORS:

The cause of the reactor trip was due to a faulty positioned (Moore Model 74GS) on the #3 MFRV. The positioned caused the #3 MFRV to go full open resulting in overfeeding steam generator #3. The positioner was inspected at Maine Yankee and no failure cause was identified. The

positioner has been sent to the manufacturer to perform a failure analysis. A supplemental report will not be submitted unless the manufacturer's failure analysis identifies a specific cause.

CORRECTIVE ACTIONS:

The faulty positioner on #3 MFRV has been replaced. The positioner on #2 MFRV was also replaced as a precautionary measure, since it had been in service since July 1992. The positioner on #1 MFRV had been replaced in January 1996. The air filter of the positioner on #3 MFRV was inspected and found to be clean. The electrical switchyard breaker was repaired and returned to service.

Planned long term actions are to (1) have the manufacturer perform a failure analysis on the positioner, (2) evaluate equipment history to include MFRV positioners in a Preventative Maintenance program, (3) evaluate securing the air supply to the MFRV during plant shutdowns, and (4) evaluate new types of control systems which would relocate the instruments off the MFRV actuator.

PREVIOUS SIMILAR EVENTS:

A similar LER 87-06 was reported. The #3 MFRV failed open due a loss of control power to the electronic to pneumatic converter. The loss of power was due to a lifted lead in the 24VAC power supply.

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Maine Yankee

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329 BATH ROAD o BRUNSWICK, MAINE 04011 o (207) 798-4100

March 13, 1996

MN-96-27 JRH-96-51

UNITED STATES NUCLEAR REGULATORY COMMISSION

Attention: Document Control Desk

Washington, D. C. 20555

Reference: (a) License No. DPR-36 (Docket No. 50-309

Subject: Maine Yankee Licensee Event Report 96-003, Reactor Trip

Due to High Steam Generator Level

Gentlemen:

Please find enclosed Maine Yankee Licensee Event Report 96-003. This report is submitted in accordance with 10 CFR 50.73 (a)(2)(iv).

Please contact us should you have any questions regarding this matter.

Very truly yours,

James R. Hebert, Manager

Licensing & Engineering Support, Department

JVW/mwf

Enclosure

c: Mr. Thomas T. Martin

Mr. J. T. Yerokun

Mr. E. H. Trottier

Mr. Patrick J. Dostie

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